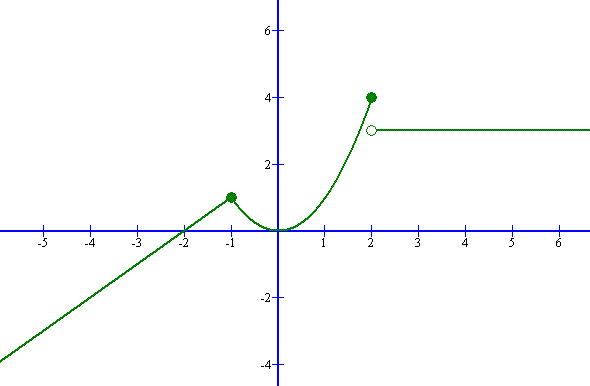
**Pre Calculus Name:**

**Final Exam Review Packet #1 Date:**



**Graphical Analysis Practice**

|  |  |
| --- | --- |
| 1. What is the domain of the graph? | 2. What is the range of the graph? |
| 3. Identify the intervals on which the graph is increasing. | 4. How do you know this graph is a function? |
| 5. Find the value of:  f( 1 )=  f( 2 ) =  f( 5 )= | 6. Find the values for x where:  f(x) = 0  f(x) = 2 |
| 7. Identify the coordinate points of any local maximum. |  |

**Building Functions**

Find and simplify each problem, using the following functions:

|  |  |
| --- | --- |
| 8. Find 2**f**(x) – 3**g**(x) | 9. Find **g(f(-2))** - same as (**fºg**)(**-2**) |

**Inverse Functions**

Find the inverse functions of the following problems:

10.  11.

**Factoring** Factor the following expressions. *(4 pts each)*

|  |  |
| --- | --- |
| **12.** x2 + 8x + 7 | **13.** 4x2 + 12x – 72 |
| **14.**  9x2 + 6x – 8 | **15**. 25x2 + 15x + 2 |

**Polynomials** *(5 pts each)*

|  |
| --- |
| **16.** Write a possible polynomial function for the following graph: |
| **17**. Solve for the x-intercepts of |
| **18.** Create a possible function that has an *odd* degree, a *negative* leading coefficient, x-intercepts at 5, 2, -3, and -6. Write the equation AND draw a sketch of the graph. |

**Rational Expressions** *(5 pts each)*

|  |  |
| --- | --- |
| **19.** Reduce: | **20.** Reduce: |
| **21.** Combine and reduce the rational expression: | **22.** Combine and reduce the rational expression: |

*Solve the following equations for x.*

23. 52x + 1 = 497 24. 3(2x-4) – 6 = 52

25. 27-2x + 6 =( )5x 26. -2 log8(x+1) = -8

17. log6(-3m-1) = log6(-4m – 6) 28. 2ln(x) – 4 = 6

29. ln (x + 1) – ln (x – 2) = ln (2)